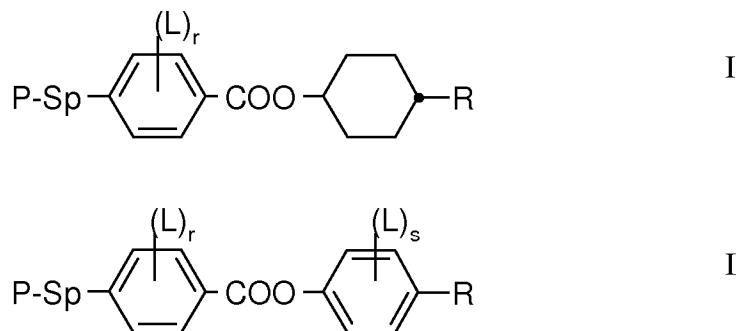


This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Presented) A method of preparing a polymer film or marking comprising printing a polymerizable liquid crystal material onto a substrate and polymerizing said liquid crystal material to form the polymer film or marking, wherein the polymerizable liquid crystal material does not contain a solvent, thinner, dispersion agent, polymeric binder, or a monomer compound that can be converted into the polymeric binder by polymerization, and wherein the polymerizable liquid crystal material comprises at least one compound of formula I and/or at least one compound of formula II



wherein

P is a polymerizable group,

Sp is a spacer group S-X, wherein S is alkylene with up to 20 C atoms which may be unsubstituted, mono- or poly-substituted in each case independently by F, Cl, Br, I or CN, one or more non-adjacent CH₂ groups to be optionally being replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -SiR⁰R⁰⁰-, -CO-, -COO-, -OCO-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

R is halogen, straight chain or branched alkyl with 1 to 20 C atoms, that is unsubstituted, mono- or polysubstituted, in each case independently, by F, Cl, Br, I or CN, and wherein one or more non-adjacent CH₂ groups are optionally replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -

$\text{SiR}^0\text{R}^{00}$ -, -CO-, -COO-, -OCO-, -OCO-O-, -SO₂-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

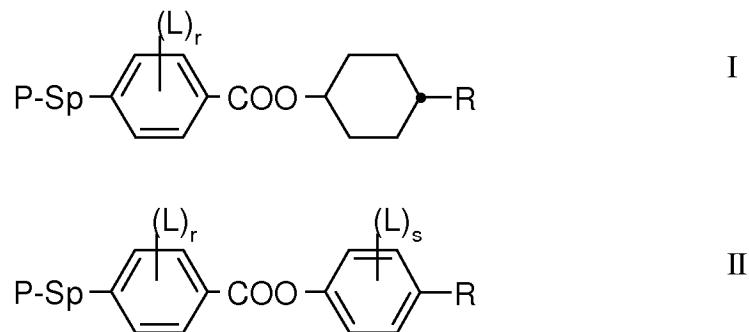
R^0 and R^{00} are, independently of each other, H or alkyl with 1 to 12 C atoms,

L is F, Cl, Br, or an alkyl, alkoxy, alkylcarbonyl or alkoxy carbonyl group with 1 to 12 C atoms, wherein one or more H atoms, each independently, are optionally replaced by F or Cl, and

r and s are independently of each other 0, 1, 2, 3 or 4.

Claim 2. (Previously Presented) A method according to claim 1, wherein the polymerizable LC material is polymerised at a temperature below 60 °C.

Claim 3. (Previously Presented) A method of preparing a polymer film, marking or pigment, comprising printing said polymer film, marking or pigment with a polymerizable liquid crystal material comprising at least one compound of formula I and/or at least one compound of formula II



wherein

P is a polymerizable group,

Sp is a spacer group S-X, wherein S is alkylene with up to 20 C atoms which may be unsubstituted, mono- or poly-substituted in each case independently by F, Cl, Br, I or CN, one or more non-adjacent CH₂

groups to be optionally being replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -SiR⁰R⁰⁰-, -CO-, -COO-, -OCO-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

X is -O-, -S-, -CO-, -COO-, -OCO-, -CO-NR⁰-, -NR⁰-CO-, -OCH₂-, -CH₂O-, -SCH₂-, -CH₂S-, -CF₂O-, -OCF₂-, -CF₂S-, -SCF₂-, -CF₂CH₂-, -CH₂CF₂-, -CF₂CF₂-, -CH=N-, -N=CH-, -N=N-, -CH=CR⁰-, -

CX¹=CX²-, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond, X¹ and X² are, independently of each other, H, F, Cl or CN, and

R is halogen, straight chain or branched alkyl with 1 to 20 C atoms, that is unsubstituted, mono- or polysubstituted, in each case independently, by F, Cl, Br, I or CN, and wherein one or more non-adjacent CH₂ groups are optionally replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -SiR⁰R⁰⁰-, -CO-, -COO-, -OCO-, -OCO-O-, -SO₂-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

R⁰ and R⁰⁰ are, independently of each other, H or alkyl with 1 to 12 C atoms,

L is F, Cl, Br, or an alkyl, alkoxy, alkylcarbonyl or alkoxy carbonyl group with 1 to 12 C atoms, wherein one or more H atoms, each independently, are optionally replaced by F or Cl, and

r and s are independently of each other 0, 1, 2, 3 or 4, and the polymerizable liquid crystal material does not contain a solvent, thinner, dispersion agent, polymeric binder, or a monomer compound that can be converted into the polymeric binder by polymerization.

Claim 4. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material is a nematic material.

Claim 5. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material is a chiral nematic or cholesteric material.

Claim 6. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material has either a nematic phase or a chiral nematic or cholesteric phase at room temperature.

Claim 7. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material comprises at least one chiral compound which can be polymerizable or non-polymerizable.

Claim 8. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material comprises at least one compound of formula I and/or II wherein R is a chiral group.

Claim 9. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material comprises at least one compound which induces and/ or enhances planar alignment

Claim 10. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material further comprises at least one polymerizable mesogenic compound having two or more polymerizable groups.

Claim 11. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material further comprises at least one polymerizable mesogenic compound having one polymerizable group.

Claim 12. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material comprises

3 - 60 % of one or more direactive mesogenic compounds,

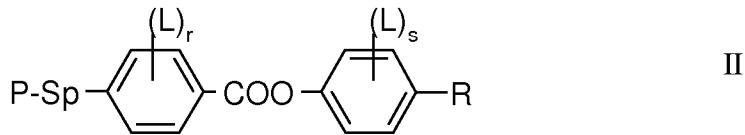
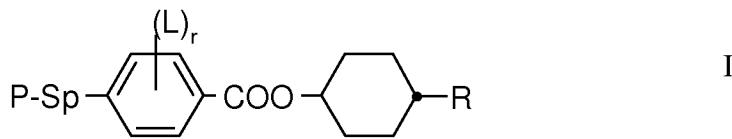
7 - 90 % of one or more monoreactive mesogenic compounds of formula I and II,

0 to 70 % of one or more further monoreactive mesogenic compounds,

0.1 to 10 % of one or more surfactants, and

0.1 to 10 % of one or more photoinitiators.

Claim 13. (Previously Presented) A polymerizable liquid crystal material comprising at least one compound of formula I and at least one compound of formula II



wherein

P is a polymerizable group,

Sp is a spacer group S-X, wherein S is alkylene with up to 20 C atoms which may be unsubstituted, mono- or poly-substituted in each case independently by F, Cl, Br, I or CN, one or more non-adjacent CH₂ groups to be optionally being replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -SiR⁰R⁰⁰-, -CO-, -COO-, -OCO-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

X is -O-, -S-, -CO-, -COO-, -OCO-, -CO-NR⁰-, -NR⁰-CO-, -OCH₂-, -CH₂O-, -SCH₂-, -CH₂S-, -CF₂O-, -OCF₂-, -CF₂S-, -SCF₂-, -CF₂CH₂-, -CH₂CF₂-, -CF₂CF₂-, -CH=N-, -N=CH-, -N=N-, -CH=CR⁰-, -CX¹=CX²-, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond, X¹ and X² are, independently of each other, H, F, Cl or CN, and

R is halogen, straight chain or branched alkyl with 1 to 20 C atoms, that is unsubstituted, mono- or polysubstituted, in each case independently, by F, Cl, Br, I or CN, and wherein one or more non-adjacent CH₂ groups are optionally replaced, in each case independently from one another, by -O-, -S-, -NH-, -NR⁰-, -SiR⁰R⁰⁰-, -CO-, -COO-, -OCO-, -OCO-O-, -SO₂-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a manner that O and/or S atoms are not linked directly to one another,

R⁰ and R⁰⁰ are, independently of each other, H or alkyl with 1 to 12 C atoms,

L is F, Cl, Br, or an alkyl, alkoxy, alkylcarbonyl or alkoxy carbonyl group with 1 to 12 C atoms, wherein one or more H atoms, each independently, are optionally replaced by F or Cl, and

r and s are independently of each other 0, 1, 2, 3 or 4, and the polymerizable liquid crystal material does not contain a solvent, thinner, dispersion agent, polymeric binder, or a monomer compound that can be converted into the polymeric binder by polymerization.

Claim 14. (Previously Presented) A liquid crystal polymer, liquid crystal pigment, oriented liquid crystal polymer film or marking obtained from a polymerizable liquid crystal material according to claim 13.

Claim 15. (Currently Amended) A liquid crystal pigment obtained from a polymer or polymer film produced from a polymerizable liquid crystal material according to claim 14 13.

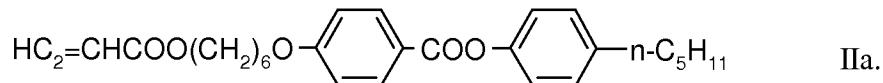
Claim 16. (Currently Amended) An optical, electrooptical, decorative, security, cosmetic, diagnostic, electric, electronic, charge transport, semiconductor, optical recording, electroluminescent, photoconductor and or electrophotographic item comprising a polymerisable liquid crystal material according to claim 13, or a liquid crystal polymer, liquid crystal pigment, oriented liquid crystal polymer film or marking obtained from said polymerisable liquid crystal material.

Claim 17. (Previously Presented) A decorative, security, authentication or identification marking, thread or device comprising a polymerizable liquid crystal material according to claim 13, or a liquid crystal polymer, liquid crystal pigment, oriented liquid crystal polymer film or marking obtained from said polymerizable liquid crystal material.

Claim 18. (Previously Presented) A decorative, security, authentication or identification marking, thread or device according to claim 17, comprising at least two chiral nematic materials that differ from each other in their handedness and/or their reflection color and/or their color flop.

Claim 19. (Previously Presented) An object, document of value or hot stamping foil comprising a decorative, security, authentication or identification marking, thread or device according to claim 18.

Claim 20. (Previously Presented) A polymerizable liquid crystal compound that is of formula IIa



Claim 21. (Previously Presented) A polymerizable liquid crystal material comprising the compound of claim 20 and the compound of formula Ia



Claim 22. (Previously Presented) A polymerizable liquid crystal material according to claim 13, wherein

in the compound of formula I or II,

r and s are 0,

P is an acrylate, methacrylate, vinyl or epoxy group,

L is F or methyl, or

R is straight chain alkyl with 1 to 15 C atoms, or

wherein in the compound of formula I,

r is 1 or 2, or

wherein in the compound of formula II,

r or s is 1 or 2, or both r and s are 1 or 2.

Claim 23. (Previously Presented) A polymerizable liquid crystal material according to claim 13, wherein in the compound of formula I and/or II, R is a chiral group.

Claim 24. (Previously Presented) A method according to claim 1, wherein the polymerizable liquid crystal material has a nematic or cholesteric phase at 10° C.

Claim 25. (Previously Presented) A method according to claim 3, wherein the polymerizable liquid crystal material has a nematic or cholesteric phase at 10° C.

Claim 26. (Previously Presented) A material according to claim 13, wherein the polymerizable liquid crystal material has a nematic or cholesteric phase at 10° C.